Amendments to the Specification:

Please replace paragraphs [0018] – [0020] with the following paragraphs:

[0018] **FIG. 5** illustrates a ~~fifth configuration of the preferred embodiment of the C-C transmission cable according to the invention.~~ second alternative embodiment of the C-C transmission cable according to the invention, showing a carbon core that is bundle of dry carbon fibers encased in a sheath.

[0019] **FIG. 6** illustrates a ~~first alternative embodiment of the C-C transmission cable according to the invention, showing a braided rope carbon core encased in the protective sheath~~ first alternative embodiment of the C-C transmission cable according to the invention, showing a braided rope carbon core encased in the protective sheath.

[0020] **FIG. 7** illustrates a ~~second alternative embodiment of the C-C transmission cable according to the invention, showing a carbon core that is bundle of dry carbon fibers encased in a sheath.~~ fifth configuration of the preferred embodiment of the C-C transmission cable according to the invention.

Please replace paragraphs [0021] and [0022] with the following paragraphs:

[0021] ~~**FIGS. 1 to 5**~~ **FIGS. 1 – 4** and **7** illustrate various configurations of the preferred embodiment of the present invention. **FIG. 1** illustrates a first configuration of a C-C transmission cable **10** according to the invention comprising an outer conductor **16**, a carbon-core **12**, and a sheath **14**. The outer conductor **16** in the embodiments shown is typically a conventional aluminum conductor of the type used for ACSR high-voltage transmission lines. The carbon core **12** shown in **FIG. 1** is a straight pultruded, circular-sectioned carbon-fiber reinforced composite core. The carbon fibers are pultruded in a high-temperature polymer matrix.

[0022] **FIG. 2** illustrates a second configuration of the preferred embodiment C-C transmission cable **10A** comprising the outer conductor layer **16**, the sheath **14**, and a carbon core **12**, wherein the rods of the carbon core **12** are slightly twisted. **FIGS. 3** and **4** illustrate a third and fourth configuration, respectively, of the preferred embodiment C-C transmission cable **10A** and **10A, 10B, 10C**. These third and fourth configurations comprise the outer conductor layer **16**, the carbon core **12**, and the sheath **14**, wherein the rods of the carbon core **12** are variously sectioned rods. In the configurations shown, the outer rods are substantially trapezoidal and the inner central rod is hexagonal in shape. ~~FIG. 5~~ FIG. 7 illustrates a configuration in which the outer conductor layer **16** is wrapped with a pronounced twist about the carbon core **12** and the sheath **14**.

Please replace paragraphs [0025] and [0026] with the following paragraphs:

[0025] **FIG. 6** illustrates a first alternative embodiment of a C-C transmission cable **50** according to the invention. The C-C transmission cable ~~50~~ 60 comprises the outer conductor layer **16** and the sheath **14**, with a braided carbon core ~~512~~ 612. The fiber used in the braided carbon core ~~512~~ 612 is from a high modulus (HM), commercial grade PAN (polyacrylonitride) based carbon fiber from Zoltek, Panex 33®, with a 48K-tow filament.

[0026] ~~FIG. 7~~ FIG. 5 illustrates a second alternative embodiment of a C-C transmission cable ~~60~~ 50 according to the invention. The C-C transmission cable ~~60~~ 50 comprises the outer conductor layer **16** and a carbon core ~~612~~ 512 made of a dry carbon fiber rope. The fiber used to fabricate the carbon core ~~612~~ 512 is a HM commercial grade of Amoco T300 grade 12K tow polyacrylonitride based carbon fiber. The design concept of the carbon core ~~612~~ 512 employs a unidirectional fiber reinforcement architecture. The carbon core ~~612~~ 512 is pulled up into a braid by the sheath material to produce a double-thickness braid with a parallel core of HM carbon

fiber. An advantage of the carbon core ~~612~~ 512 is that it further increases the strength of the dry carbon fibers by avoiding the braiding process, *i.e.*, passing the fiber tows over and under one another, which would increase the shear and subsequently reduce the axial tensile load bearing capability of the carbon core ~~612~~ 512.